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(21) International Application Number: PCT/US98/26094 (22) International Filing Date: 9 December 1998 (09.12.98) (30) Priority Data: 08/989,888 12 December 1997 (12.12.97) US (71) Applicants: C.R. BARD, INC. [US/US]; 730 Central Avenue, Murray Hill, NJ 07974 (US). LEHIGH UNIVERSITY [US/US]; 526 Brodhead Avenue, Bethlehem, PA 18015 (US). (72) Inventors: VANDERHOFF, John, W.; 345 Ninth Avenue, Bethlehem, PA 18018 (US). LU, Cheng, Xun; Apartment 22F, 1 JFK Boulevard, Somerset, NJ 08873 (US). LEE, Clarence, C.; 1141 Kelvington Way, Lilburn, GA 30247 (US). TSAI, Chi-Chun; 1298 Millvale Court, Lawrenceville, GA 30244 (US). (74) Agents: PRIOR, Kimberly, J. et al.; Jones & Askew, LLP, 37th floor, 191 Peachtree Street, N.E., Atlanta, GA 30303 (US).		(81) Designated States: IN, JP, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

(54) Title: PROCESS FOR THE PREPARATION OF AQUEOUS DISPERSIONS OF PARTICLES OF WATER-SOLUBLE POLYMERS AND THE PARTICLES OBTAINED**(57) Abstract**

The invention is a process for the preparation of cross-linked water-swellaable polymer particles. First, an aqueous polymer solution containing a water-soluble polymer having at least one functional group or charge, is combined with aqueous medium. The aqueous polymer solution is then mixed under moderate agitation with an oil medium and an emulsifier to form an emulsion of droplets of the water-soluble polymer. A cross-linking agent capable of cross-linking the functional groups and/or charges in the water-soluble polymer is then added to the emulsion to form cross-linked water-swellaable polymer particles. The invention also includes the particles formed by the process and aqueous dispersions containing the particles which are useful for administering to an individual. The particles of the invention are useful for implantation, soft tissue augmentation, and scaffolding to promote cell growth.